FLORENCE COPPER INC.
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florencecopper.com

March 6, 2020
File No. 132473-003

Ms. Nancy Rumrill
U.S. Environmental Protection Agency
Region 9, Ground Water Office, WTR-9
75 Hawthorne Street
San Francisco, California 94105-3901

Re: Plan for Part II.B Demonstration of Mechanical Integrity at the Production Test Facility
Underground Injection Control Permit No. R9UIC-AZ3-FY11-1
Florence Copper Project, Florence Arizona

Dear Ms. Rumrill:

Florence Copper Inc. (Florence Copper) is currently operating the Production Test Facility (PTF) in Florence, Arizona. In accordance with the site Underground Injection Control (UIC) Permit No. R9UIC-AZ3-FY11-1 (Permit) and the *Conditional Authorization to Commence Injection for the Production Test Facility* letter dated 14 December 2018, Florence Copper will conduct Mechanical Integrity Testing (MIT) demonstrations. Additionally, under a Minor Modification issued July 25, 2019 Florence Copper is required to conduct Temperature Decay Logging quarterly on WestBay wells. This document includes the plan for conducting the required demonstrations.

External Mechanical Integrity Testing Procedures

The Part II MIT demonstration requirements in Part II.E.3(a)(ii)(B) of the Permit require Florence Copper to conduct differential temperature logging surveys at all PTF wells. A minor modification was made to Part II.E.3.ii.A, Well Operation on Page 18, requiring that temperature logs be conducted on the Westbay wells on a quarterly basis. Testing will be conducted according to Region 9 guidance included in Appendix of the Permit.

Temperature Decay Logging:

Temperature decay logging will be conducted on all 4 Westbay wells. All downhole sampling equipment will be removed prior to conducting the survey. The Westbay well casing system cannot be removed. However, the Westbay casing system is an effective method of shutting in the well by design, using a system of dedicated packers and sealed casing. All surveys will be conducted by an experienced borehole geophysics contractor.

Because the Westbay monitoring wells are not used for injection, and are continuously shut in by design, the requirement for a 12 hour shut in period prior to logging is satisfied.

The procedure for the temperature decay logging is as follows:

1. Set-up logging truck at the wellhead. Tooling will consist of a temperature tool, dual gamma ray (GR) detectors (as needed), and casing collar locator (CCL). Load the logging tool(s) into the lubricator, open the master wellhead valve, and begin temperature logging as follows:
    a. The tool will be run downward at a rate of 20 to 50 feet/minute (recommended speed is approximately 30 feet/minute).
    b. Other recording tracks will include:
        i. Depth and logging speed;
        ii. GR or spontaneous potential curve for lithologic correlation (if data exists for the well it will be used rather than collecting new data); and
        iii. CCL.
2. The temperature log will be recorded with depth on a vertical scale of 1 or 2 inches = 100 feet and temperature on a horizontal scale of 5 degrees Fahrenheit (°F) per inch (1°F per log scale division). The logging tool will be run from the water level to the total well depth. Note that a differential temperature track may be added to the final log following data processing by the logging contractor.
3. Tag total depth and perform a correlation check and depth adjustment relative to the packer setting depth using the CCL, and then pull tool up to surface and repeat Step 3 to perform the second temperature logging operation, after a minimum of 4 hours has elapsed since the start of initial temperature logging.

The two temperature surveys and the differential between the two surveys at each well will be plotted on a log along with gamma survey or spontaneous potential data from the well being evaluated and will be analyzed for any anomalies that may indicate fluid movement is occurring behind the well casing.

Schedule

Temperature logs will be run at each of the WestBay wells on a quarterly basis for the duration of PTF operations. The planned temperature logging schedule is March 2020, June 2020, September 2020 and December 2020.

Reporting

The temperature survey data will be provided electronically (in Excel format) in addition to the hard copy logs, PDF files, and raw acquisition files. The results of the test including the logs generated by the logging contractor(s) will be transmitted to the U.S. Environmental Protection Agency (EPA) with a summary of the results.

If any deficiencies are identified during the testing activities the EPA will be notified immediately.

Please contact me at 520-374-3984 if you require any additional information.

Sincerely,
Florence Copper Inc.

Richard Tremblay
Vice President – Operations

cc: Maribeth Greenslade, Arizona Department of Environmental Quality